

INVESTIGATOR'S ANNUAL REPORT

National Park Service

All or some of the information provided may be available to the public

Reporting Year: 2002	Park: Shenandoah NP
Principal Investigator: Dr Robin Jung	Office Phone: 301.497.5875 Email: robin_jung@usgs.gov
Address: 12100 Beech Forest Rd. Laurel, MD 20708-4038 US	Office Fax: 301.497.5784
Additional investigators or key field assistants (first name, last name, office phone, office email): No co-investigators	
Permit#: SHEN-2001-SCI-0030	
Park-assigned Study Id. #: SHEN-00259	
Project Title: DOI-USGS AMPHIBIAN RESEARCH AND MONITORING INITIATIVE (ARMI) IN THE NORTHEAST	
Permit Start Date: Feb 01, 2001	Permit Expiration Date Dec 31, 2003
Study Start Date: Feb 01, 2001	Study End Date Dec 31, 2005
Study Status: Continuing	
Activity Type: Inventory	
Subject/Discipline: Herpetology (Amphibians / Reptiles)	
Objectives: <p>The goals of this long-term amphibian project at Shenandoah National Park are to:</p> <ul style="list-style-type: none"> ·Monitor pond, streamside and terrestrial amphibians ·Estimate bias in and validate survey methodologies ·Assess spatial and temporal variation in amphibian counts in relation to environmental variables ·Assess health and disease status of amphibians at Shenandoah National Park ·Provide amphibian and reptile distribution map data to Shenandoah National Park ·Conduct population monitoring and conservation genetics work on the federally endangered Shenandoah salamander (<i>Plethodon shenandoah</i>) <p>The objectives of the "Streamside Salamander Inventory and Monitoring" project are to:</p> <ol style="list-style-type: none"> 1) conduct transect and quadrat sampling for streamside salamanders 2) determine detection rates and population estimates along transects 3) establish a long-term streamside salamander monitoring program on Federal lands within the Northeast. 	

The objectives of the "Wood Frog and Spotted Salamander Egg Mass Counts and Percent Vernal Pools Occupied by Amphibian Species" project are to:

- 1) determine if populations are increasing, decreasing or staying the same over time
- 2) determine if pool usage is related to surrounding land use and cover, road density or distance to nearest road, and proximity to or density of other potential breeding sites
- 3) determine if pool usage is related to water quality variables, hydroperiod, or climatic conditions
- 4) get the best picture of the OVERALL CUMULATIVE REPRODUCTIVE OUTPUT for each vernal pool
- 5) PERCENT VERNAL POOLS OCCUPIED approach is an important methodological and statistical approach to determining: 1) species detectability and 2) spatial distributions and metapopulation dynamics of amphibians

The goals of the "Effects of Prescribed Burn on Salamanders" project are to:

- Continue a long-term monitoring project on red-backed salamanders
- Examine variation in salamander counts and population estimates before and after the burn, and in relation to environmental variables such as weather, soil (moisture, pH), and vegetation

The goals of the "Terrestrial Salamander Long-Term Monitoring Coverboard Study" project are to:

- Continue a long-term monitoring project on red-backed salamanders
- Examine variation in salamander counts in relation to environmental variables such as weather and soil (moisture, pH)
- Examine differences between salamander counts under natural cover objects and under artificial cover objects (cover boards)

Findings and Status:

Below is a list of sites visited and the species found at each of these sites.

Streams:

1) Piney River

Desmognathus fuscus

Eurycea bislineata

Gyrinophilus porphyriticus

2) Devil's Staircase

Eurycea bislineata

Desmognathus fuscus

Gyrinophilus porphyriticus

3) Jeremy's Run 1

Eurycea bislineata

Desmognathus fuscus

Desmognathus monticola

Gyrinophilus porphyriticus

4) Shenk's Hollow

Eurycea bislineata

Desmognathus fuscus

Gyrinophilus porphyriticus

Desmognathus monticola

5) Ivy Creek Tributary

Desmognathus monticola

Eurycea bislineata

Desmognathus fuscus

Gyrinophilus porphyriticus

6) Hawksbill Creek Tributary

Desmognathus monticola

Eurycea bislineata

Desmognathus fuscus

Gyrinophilus porphyriticus

7) Paine Run

Desmognathus monticola

Eurycea bislineata

Gyrinophilus porphyriticus

Pseudotriton ruber

Rana clamitans

Desmognathus fuscus

8) Doyle's River

Desmognathus monticola

Eurycea bislineata

Desmognathus fuscus

Gyrinophilus porphyriticus

9) Jeremy's Run 2

Desmognathus monticola

Eurycea bislineata

10) North Thornton Gap

Eurycea bislineata
Desmognathus monticola

11) Jewel Hollow

Desmognathus monticola
Desmognathus fuscus
Eurycea bislineata
Gyrinophilus porphyriticus

12) Swift Run

Eurycea bislineata
Desmognathus fuscus
Desmognathus monticola

13) Two Mile Run

Desmognathus monticola
Eurycea bislineata
Desmognathus fuscus
Gyrinophilus porphyriticus

14) Brokenback Run

Eurycea bislineata
Desmognathus monticola
Desmognathus fuscus

15) Ragged Run

Desmognathus fuscus
Eurycea bislineata
Desmognathus monticola

16) Staunton River

Vernal Pools:

1) Big Meadows

Rana sylvatica

2) Hog Camp Swamp

Rana sylvatica

Ambystoma maculatum

3) Swamp Island

Rana sylvatica

4) Rocky Creek

Rana sylvatica

5) Pond Ridge

Pseudacris crucifer

Rana sylvatica

Rana clamitans

Ambystoma maculatum

Burn/Control Plots:

1) burn plot #2

Plethodon cinereus

2) burn plot #3

Plethodon cinereus

3) burn plot #4

Plethodon cinereus

4) burn plot #5

Plethodon cinereus

5) burn plot #6

Plethodon cinereus

6) control plot #2

Plethodon cinereus

Plethodon glutinosus

7) control plot #3

Plethodon cinereus Plethodon glutinosus Thamnophis sauritus 8) control plot #4 Bufo americanus 9) control plot #5 Plethodon cinereus 10) control plot #6 Plethodon cinereus	
For this study, were one or more specimens collected and removed from the park but not destroyed during analyses? No	
Funding provided this reporting year by NPS: 0	Funding provided this reporting year by other sources: 0
Fill out the following ONLY IF the National Park Service supported this project in this reporting year by providing money to a university or college	
Full name of college or university: n/a	Annual funding provided by NPS to university or college this reporting year: 0